Building a Truss Bridge

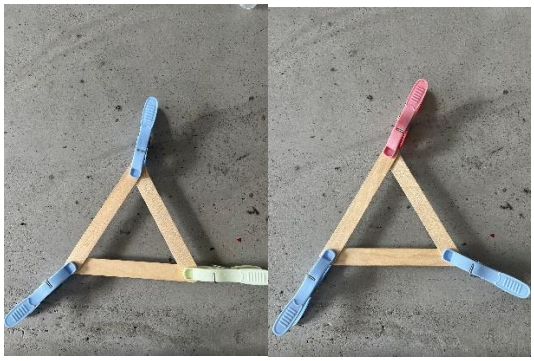
Name of the object and creator	Truss bridge by Logopsycom				
Recommended ages	10 – 12 y.o				
Thematic areas combined (STEAM)	Sciences	Technology	Engineering	Arts	Mathematics
	☑	☐	☑	☐	☑
Materials needed	• Popsicle sticks at least 15 cm long (at least 65) • All-purpose or wood glue • Cable ties				
Outline of the steps	1. Construction of the upper sides of the bridge 2. Construction of the bridge deck 3. Test its strength!				
References	STEM Inventions. (s. d.). Truss Bridge Engineering Project for Elementary and Middle School Kids. DIY STEM Projects. Consulté 1 juillet 2023, à l'adresse https://www.stem-inventions.com/truss-bridge				

STEP BY STEP: How to build a Tuss Bridge

Step 1: Construction of the upper sides of the bridge	Estimated time: 30 minutes

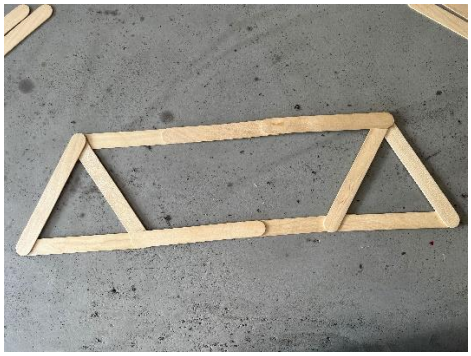
- Gather all the material needed.

- Start by creating two triangles using 6 sticks.

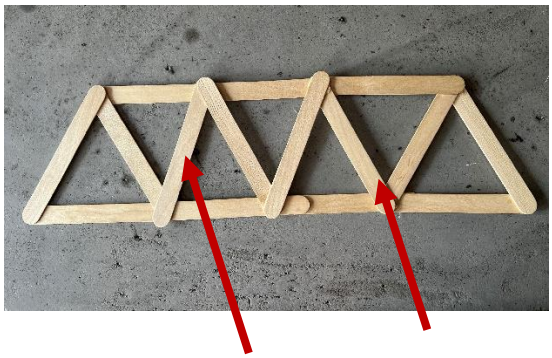


Tip: while the glue is drying, use clothes pegs to hold the sticks in place.

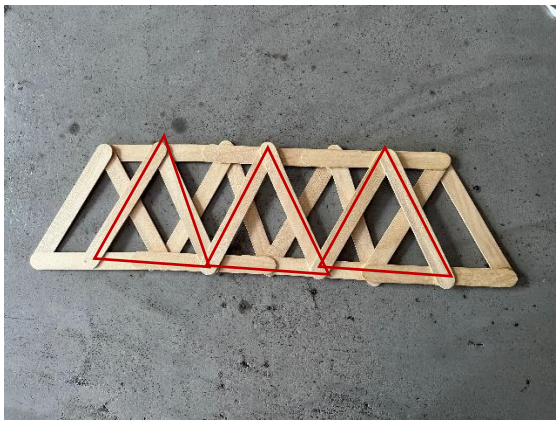
- Connect these two triangles by adding two sticks to the lower part and three sticks to the upper part.



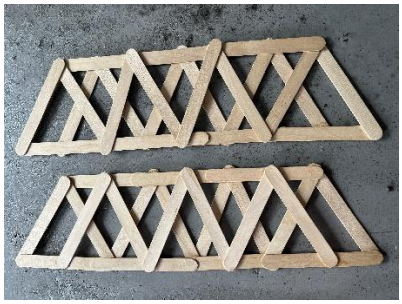
- Connect the two triangles at the ends by creating two other triangles with 4 sticks.



- Turn the structure over and create 3 triangles by adding 6 sticks.

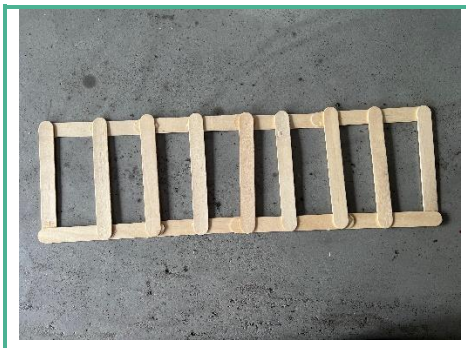


- Repeat the same operations to obtain the second side of the bridge.



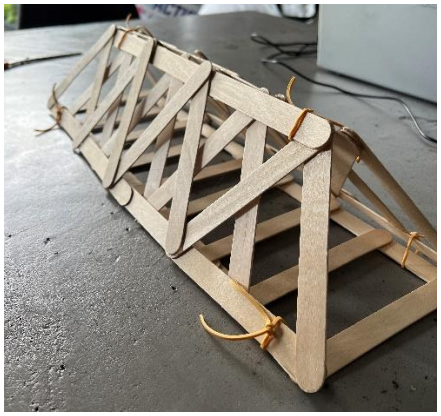
Step 2: Construction of the bridge deck	Estimated time: 10 minutes

- Start by assembling a rectangle 1 stick wide by 4 sticks long, then add 7 sticks across the width to consolidate the structure.



- Place the three parts of the bridge and hang it in 6 places.

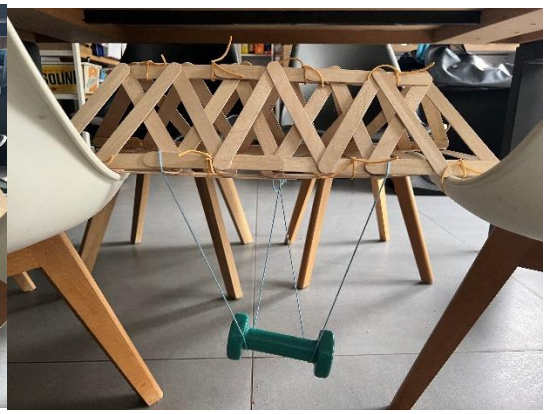
Tip: Two people are needed to hold the different parts and tie the knots.



Tip: Reinforces the structure by adding elastics.

Step 3: Test its strength!	Estimated time: 10 minutes

- Place your bridge between two objects of the same height. Pass a string across 4 points on the bridge and try to suspend objects of different weights.



STEAM IN TIMES

DiSCLAIMER

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Co-funded by the European Union